

REMARKS/ARGUMENTS

The Applicant has carefully considered this application in connection with the Examiner's Action and respectfully requests reconsideration of this application in view of the following remarks.

The Applicant originally submitted Claims 1-21 in the application. In a preliminary amendment, the Applicant amended Claim 1 and canceled Claims 11-21. In the present response, the Applicant has not amended the claims. Accordingly, Claims 1-10 are currently pending in the application.

I. Rejection of Claims 1-3 and 10 under 35 U.S.C. §102

The Examiner has rejected Claims 1-3 and 10 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,045,434 to Fisher *et al.* ("Fisher"); U.S. Patent No. 6,186,864 to Fisher *et al.* (Fisher-2); and under 35 U.S.C. §102(e) by U.S. Patent Application 2004/0043521 to Elledge ("Elledge"). The Applicant respectfully disagrees.

Claim 1 recites, among other things, an ultrasonic probe located over a polishing surface and configured to both transmit an ultrasonic signal to the polishing surface and receive a modified ultrasonic signal from the polishing surface without contacting the polishing surface. Claim 1 further recites that the modified ultrasonic signal is a reflected signal used to calculate a reflectance spectrum of the polishing surface.

The Applicant submits that Fisher fails to teach or suggest calculating a reflectance spectrum of the polishing surface as recited in Claim 1. Rather, Fisher's apparatus merely measures the time or phase of ultrasonic signals reflected from a polishing pad surface in order to measure a change in thickness of the pad (*see e.g.*, Column 5, Lines 35-40).

The Applicant notes that Fisher-2 is a divisional patent of Fisher. Therefore the above comments regarding Fisher equally apply to this cumulative reference.

Although the Examiner cited Elledge as anticipating Claims 1-3 and 10, no explanation was given for the basis of this rejection. The Applicant respectfully submits that, like Fisher, Elledge fails to teach calculating a reflectance spectrum of the polishing surface, as recited in Claim 1. Similar to Fisher, Elledge's apparatus uses an ultrasonic signal to make time of flight measurements to determine the thickness of the polishing pad (*see e.g.*, paragraph [0048]).

Therefore, because neither Fisher-1, Fisher-2 nor Elledge disclose each and every element of the claimed invention, these are not anticipating references. Because Claims 2, 3 and 10 are dependent upon Claim 1, these references also cannot be anticipating references for Claims 2, 3, and 10. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §102 rejections with respect to these Claims.

II. Rejection of Claims 4-9 under 35 U.S.C. §103

The Examiner has rejected Claims 4 and 5 under 35 U.S.C. §103(a) as being unpatentable over Elledge. Claims 6-9 are rejected over Elledge in view of U.S. Patent Application 2004/0055223, to Ono *et al.* ("Ono").

The Applicant respectfully maintains that the claimed invention is not obvious in view of the foregoing references, and that various combinations of these reference fail to establish a *prima facie* case of obviousness of Claims 4-9.

As noted above, Elledge fails to teach or suggest calculating a reflectance spectrum of the polishing surface as recited in Claim 1. Moreover, Ono fails to remedy this deficit teaching or

suggestion in as much as Ono is directed to polishing pads having various characteristics or compositions.

Therefore Elledge, or the combination of Elledge in view of Ono, fail to teach or suggest all of the elements of Claim 1. It follows that these references cannot establish a *prima facie* case of obviousness of dependent Claims 4-9, which include the elements of independent Claim 1. The Applicant therefore respectfully requests the Examiner withdraw the rejection.


III. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a timely Notice of Allowance for Claims 1-10.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,

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